

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA**

BASF AGRO B.V., ARNHEM (NL),
WÄDENSWIL BRANCH, and BAYER
S.A.S.,

Plaintiffs,

v.

CHEMINOVA, INC.

Defendant.

Civ. Action No. 10-CV-274

**DEFENDANT CHEMINOVA, INC.'S OPENING
CLAIM CONSTRUCTION BRIEF**

INTRODUCTION

In August 2010, the patent protecting the molecule known as fipronil expired. Until that time, the plaintiffs, BASF Agro B.V., Arnhem (NL), Wädenswil Branch and Bayer S.A.S. (collectively, “Plaintiffs”), had effectively used that molecule patent to exclude companies from selling fipronil-based products in the United States.

This lawsuit involves four “follow-on” patents to the molecule patent -- patents that are inherently weak or narrow. U.S. Patent Nos. 6,620,943 (the “‘943 Patent”) and 6,881,848 (the “‘848 Patent”) (collectively, the “Manufacturing Patents”) cover a particular method for manufacturing fipronil. Exs. 1, 2¹. The other two patents, U.S. Patent Nos. 6,414,010 (the “‘010 Patent”) and 6,835,743 (the “‘743 Patent”) (collectively, the “Application Patents”), cover a particular method for applying fipronil-based products as an insecticide to protect buildings. Exs. 3, 4. As detailed herein, Plaintiffs seek constructions well beyond the boundaries of their patents in order to improperly extend their patent monopoly to cover Cheminova’s planned products.

BACKGROUND

I. THE METHOD FOR MAKING FIPRONIL DISCLOSED IN THE MANUFACTURING PATENTS

The Manufacturing Patents describe a method for manufacturing fipronil and related compounds through a series of steps. ‘943 Patent, Abstract.² A known problem with the method disclosed in the patents is “the formation of hydrogen fluoride,” or “HF,” which corrodes the “glass linings of industrial reaction vessels.” *Id.*, 1:49-56. These reaction vessels are used to hold the reaction mixtures that are used to create fipronil.

¹ Citations to “Ex. _” refer to exhibits attached to the Declaration of Joshua C. Krumholz.

² The ‘848 Patent is a divisional of the ‘943 Patent, which means that, while it claims a different invention, the ‘848 Patent derives from the same disclosure as the ‘943 Patent and shares the same specification. *See* 35 U.S.C. § 121. For ease of use, all references will be to the specification in the ‘943 Patent.

As Martin Sukopp, a BASF chemist and its former Laboratory Manager, explained in his Declaration in Support of Plaintiffs' Motion for Preliminary Injunction, one of skill in the art could mitigate this corrosion problem by using two different approaches: (1) creating specially-designed reactors; and/or (2) using a "corrosion inhibitor." Docket No. 10, Ex. C (Sukopp Dec.), ¶ 11 ("These corrosion issues in manufacturing fipronil require specially designed reactors or the use of corrosion inhibitors, or both, to avoid the costs of rapid equipment degradation").

The Manufacturing Patents teach the use of the second approach -- adding "corrosion inhibitor" compounds to the reaction mixture. The use of a corrosion inhibiting compound to address HF-caused corrosion is explained in the specifications:

It has now been found that the addition of a corrosion inhibiting compound such as boric acid to the reaction mixture inhibits the corrosion process and reduces the speed of corrosion to a level that is typically less than 5 $\mu\text{m}/\text{year}$.

'943 Patent, 1:57-60. The Manufacturing Patents also explicitly define the term "corrosion inhibiting compound," stating:

The corrosion inhibiting compound is generally boric acid or an alkali metal borate such as sodium borate; or any ***hydrogen fluoride trapping agent*** such as silica (silicon dioxide), optionally in the form of silica oil.

See, e.g., id., 4:63-67 (emphasis added).

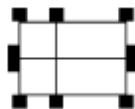
The patents teach that the hydrogen fluoride trapping agent inhibits corrosion of the glass-lined vessels by "trapping" the HF before the HF can react with the glass lining. The patents disclose boric acid as the preferred trapping agent, which is added to the reaction mixture preferably at amounts disclosed in the specification. *See, e.g., id.*, 4:66-67; 11:33-52. As discussed more fully herein, each claim in the Manufacturing Patents requires that this corrosion inhibiting compound be added to the mixture that is used to form fipronil.

A. The Specific Method For Using Fipronil-Based Products Disclosed in the Application Patents

The Application Patents relate to a method for applying solutions containing fipronil “to protect a building that has already been built or is going to be built against crawling insects, especially against termites.” ‘743 Patent, 1:8-10.³ According to the patents, prior art techniques applied insecticide either “around” or “under” a building, to create a complete chemical barrier along the perimeter of the building. *Id.*, 1:13-16.

The main problem with the prior art methods, according to the patents, was that “loopholes in the treatment may cause failure of protection of the houses.” *Id.*, 1:15-16. In other words, the barrier may not be complete. *Id.* To solve this problem, the Application Patents actually embrace, and indeed require, the deliberate creation of these loopholes. *Id.*, 5:62-63. Instead of creating a continuous barrier, the patents teach that the insecticide is to be “applied on discrete locus,” either around or under the building. *Id.*, 3:41-42. Specifically, the insecticide is applied to form both “treated and untreated locations” along the building’s perimeter, such that the treated locations constitute only between 5% and 75% of the building’s total perimeter. *Id.*, 3:42-45; 5:62; 5:9.

The two examples provided in the patents further explain this application process. Example 1 involves the protection of a future building, where the treatment is an application around the outside of the perimeter, representing 50% of that perimeter. *Id.*, 5:20-38. Example 1 contains an illustration showing the treated areas (dark rectangles) and untreated areas (no dark rectangles) around the perimeter of a future house:



Id., 5:20-38.

³ Like the Manufacturing Patents, the ‘743 Patent is a divisional from the ‘010 Patent and therefore shares the same specification. For convenience, all cites will be to the ‘743 Patent.

Example 2 applies the termiticide in the same manner, except that it is “applied inside the perimeter of the house. In other words, the locus of application differs from Example 1 only by the fact that it is located at the other side of the wall.” *Id.*, 5:47-50. Thus, Example 1 exemplifies an application “around” the (future) building, and Example 2 exemplifies an application “under” the (future) building. *Id.*, 5:63-66 (“applying [the solution] to discrete locations ***around or under*** said building along the perimeter of the building”) (emphasis added).

In prosecuting the patents, the applicant emphasized this deliberate creation of untreated locations in distinguishing his invention over the prior art:

None of these [prior art] documents teaches the ***deliberate creation of untreated locations*** (i.e., loopholes) through which the crawling insect can reach the building without being exposed to the insecticide.

See, e.g., Ex. 5, (Aug. 2, 2001 Amendment), p. 13 (emphasis added).

After the United States Patent and Trademark Office (“USPTO”) still refused to issue a patent, the applicant again stressed this difference, this time in the form of a declaration from Dr. Joe Hope. Dr. Hope declared on behalf of the applicant that the teachings in the prior art documents,

in combination or taken separately would direct the skilled artisan to use insecticides to form a barrier between the structure to be protected and the termites and not to form treated and untreated locations along the perimeter of a structure as claimed.

See, e.g., Ex. 6, (Jan. 22, 2002 Amendment), ¶ 19. Based on this distinction, as expressly averred by Dr. Hope, the USPTO allowed the patents. As such, the deliberate creation of untreated locations along a building’s perimeter is a fundamental limitation in the claims.

II. CLAIM CONSTRUCTION LEGAL PRINCIPLES

Claim construction is a question of law. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*). The Court determines the meaning of

disputed claim terms as understood by one of ordinary skill in the art at the time of the invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (*en banc*). Claim terms should generally be given their ordinary and customary meaning to a person of skill in the art at the time of the invention. *See id.* To determine the ordinary meaning, the Court first looks to the intrinsic evidence, which includes the claims, the specification, and the prosecution history, *i.e.*, the history of the proceedings before the USPTO. *See id.* at 1312-17. “Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent.” *See id.* at 1317.

The claim language is the starting point for claim interpretation, and can “provide substantial guidance as to the meaning of particular claim terms.” *Id.* at 1314. The differences between claims also can assist the court in construing claim terms. *See id.* Extrinsic evidence, such as expert testimony and dictionaries, also may be consulted by a Court to assist it in understanding the disputed terms. *See id.* at 1318.

III. THE MANUFACTURING PATENTS

Each of the asserted claims in the Manufacturing Patents includes a limitation claiming a “process oxidizing a *compound* having the formula (II) . . . with trifluoroperacetic acid *in the presence of a corrosion inhibiting compound.*” *See, e.g.*, ‘943 Patent, Claim 1(emphasis added). The Parties dispute the meaning of “compound,” “in the presence of,” and “corrosion inhibiting compound.”

A. A “Compound” is a Well-Known and Understood Term

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
“One or more of the same molecule that each have the same molecular structure with elements in fixed proportion.”	Plain meaning, alternatively “a substance whose materials consist of unlike atoms and whose constituents cannot be separated by physical means.”

The term “compound” is a basic and well-understood term used by those skilled in the art to refer to a substance made from one or more of the same molecules and that

therefore have the same molecular structure with elements in fixed proportion.

Declaration of Mark Lipton (“Lipton Dec.”), ¶ 8.⁴ Water, for instance, is a compound because each of its constituent parts (the individual molecules) have the same structure with elements in fixed proportions (two hydrogen elements for each oxygen element). Lipton Dec., ¶ 8.

This construction is supported by the *Oxford Dictionary of Chemistry*, a well-known and respected dictionary of chemistry terms that defines the term “compound” as:

a substance formed by the combination of elements in fixed proportions. The formation of a compound involves a chemical reaction, i.e. there is a change in the configuration of the valence electrons of the atoms. Compounds, unlike mixtures, cannot be separated by physical means. See also molecule.

Lipton Dec., ¶ 9. Cheminova's construction is further supported by Keith Holmes, a former Research Scientist, and presently the Global Product Development Manager at BASF responsible for fipronil, who in all material respects adopted the definition offered by Cheminova. See Ex. 7, Deposition of Keith Holmes (“Holmes Depo.”), 211:5-12.

While the Manufacturing Patents do not expressly define “compound,” the specification and claims repeatedly use the term in a manner consistent with its well-understood meaning. Lipton Dec., ¶ 13. Claim 1 of the ‘943 Patent, for example, refers to two compounds, one having formula (I) and the second having formula (II). See, e.g., ‘943 Patent, Claim 1. Likewise, claim 32 of the ‘848 Patent refers to two compounds, each having a specific formula (either formula (I) or (III)). See, e.g., ‘848 Patent, Claim 32. In each instance, the claims set forth a compound having a formula that shows: (a) what elements are in the compound; (b) the fixed proportions of each element; and (c) how the elements are structurally connected. Lipton Dec., ¶ 13. Each formula discloses

⁴ As more fully detailed in his declaration, Dr. Lipton is Associate Professor of Organic Chemistry and Chemical Biology at Purdue University, and has a bachelor's, two masters, and a doctoral degree in chemistry.

a “compound” as a single molecule with elements in fixed proportions, consistent with Cheminova’s definition.

Plaintiffs’ construction, meanwhile, is incomplete. While compounds do consist of unlike atoms and they cannot be separated by physical means, Plaintiffs ignore the other established properties of a compound.

B. “In the Presence Of” Means that the Component Participates in the Reaction

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
“Available in the reaction medium to take part in the reaction.”	Plain meaning, alternatively “the corrosion inhibiting compound is present during the claimed oxidation process.”

Like “compound,” the phrase “in the presence of” is well-known in the field of chemistry, and has been used for decades by those skilled in the art to describe the situation where particular compounds, solvents or catalysts take part in a chemical reaction. Lipton Dec., ¶ 20. In his declaration, Dr. Lipton identifies dozens of instances where the phrase has been used in literature and in patents, and the phrase has always been used to convey the same concept: the component that follows the phrase takes part in the described chemical reaction. *Id.*, ¶¶ 21-23.

Further, while the patents do not attempt to define this basic phrase, their use of it is entirely consistent with its well-known meaning. For instance, each of the asserted claims recites a “process comprising oxidizing a compound having the formula (II) ... with trifluoroacetic acid *in the presence of* a corrosion inhibiting compound.” ‘943 Patent, 11:10-29 (emphasis added). The specification tells us what this means: “[i]t has now been found that *the addition of a corrosion inhibiting compound to the reaction mixture* inhibits the corrosion process. . . .” ‘943 Patent, 1:57-59 (emphasis added). Thus, for the corrosion inhibiting compound at issue, the specification clearly contemplates that the compound is being added to the mixture.

In other contexts, the specification also uses the “in the presence of” language in the same way. *See, e.g., id.*, Abstract; 1:66-2:8; 2:46; 4:44; Lipton Dec., ¶¶ 24-28. For example, according to the patents, the prior art “describe[s] the preparation of [a] disulfide, and the further conversion of this disulfide . . . by reaction with trifluoromethyl bromide ***in the presence of*** sodium formate and sulfur dioxide” ‘943 Patent, 1:61-2:3 (emphasis added). Referring to that same process, the patents then go on to state that “[i]n the above described procedures the reaction was performed by addition of the trifluoromethyl bromide ***to a mixture of the other components.***” *Id.*, 2:17-19 (emphasis added).

Similarly, the patent describes the preparation of thiocyanation “in the presence of” bromine and methanol. ‘943 Patent, 2:44-45. In then describing this preparation, the patents state that the “the mixture of bromine and methanol ***used in the thiocyanation reaction*** may form explosive mixtures.” *Id.*, 2:53-54. (emphasis added). As this sentence makes clear, the bromine and methanol take part in the thiocyanation reaction.

While Cheminova’s proposed construction is entirely consistent with both the intrinsic and extrinsic record, the Plaintiffs, by contrast, improperly attempt to strip this phrase of its intended meaning. The phrase does not have a “plain meaning,” but instead is a term of art in the chemistry field. Lipton Dec., ¶¶ 18-20. Among those skilled in the art, the phrase “in the presence of” is something more than the sum of the basic dictionary definitions of each word in the phrase. *Id.*, ¶ 19. Indeed, under Plaintiffs’ construction, a compound in the same laboratory, building or even city may be “present” in the reaction. If the compound need not participate in the reaction itself, the phrase has no metes nor bounds, and therefore becomes indefinite.

C. **A “Corrosion Inhibiting Compound” is a Hydrogen Fluoride Trapping Agent**

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
“A compound that is a hydrogen fluoride trapping agent.”	“A compound that inhibits (prevents, stops or decreases) corrosion resulting from, or that might be expected to result from, the claimed oxidation process.”

The term “corrosion inhibiting compound” should be construed to have the meaning given in the specification: a compound that is “a hydrogen fluoride trapping agent.” ‘943 Patent, 4:63-67. Because the specification provides this definition, it most “naturally aligns with the patent’s description of the invention” and therefore is the correct construction. *See Phillips*, 415 F.3d at 1316.

Further, this definition is wholly consistent with the problem purporting to be solved by the claimed corrosion inhibiting compound. ‘943 Patent, 1:54-55. According to the patents, while the disclosed chemistry used to manufacture fipronil “gives excellent results in terms of both selectivity and yield [of fipronil],” it also generates a highly corrosive byproduct: hydrogen fluoride, or “HF.” *Id.*, 1:46-48. As the patents explain, the formation of HF during the oxidation process “leads to corrosion of the glass linings of industrial reaction vessels” that hold the chemicals used to formulate fipronil. *Id.*, 1:50-51.

This corrosion problem occurs because the fluoride in the HF attacks silicon atoms. Lipton Dec., ¶ 32. Glass -- like the kind used to line reaction vessels -- is made up of silicon and oxygen atoms that have bonded together to form the glass structure. *Id.* When the oxidation process produces the HF, the fluoride starts to bond with the silicon in the glass that lines the inside of the vessel. *Id.* Although the silicon already has a strong bond in place with the oxygen atoms in the glass, the newly formed fluoride-silicon bond is stronger, and it breaks the silicon free from the glass structure. *Id.* In

essence, the fluoride chips away at the glass. *Id.* The effect is significant, and the corrosion “is rapid.” ‘943 Patent, 1:52-54.

To address this corrosion problem, the Manufacturing Patents teach that a particular type of compound -- a hydrogen fluoride trapping agent -- be added to the reaction mixture to “trap” the hydrogen fluoride. ‘943 Patent, 1:49-60; 4:63-67. These trapping agents chemically react with the HF as it is produced in the manufacturing process. Lipton Dec., ¶¶ 34-36. Because these corrosion inhibiting compounds are similar to the silicon in the glass, they are able to form similarly strong bonds with the fluoride. *Id.*, ¶ 35. When these compounds are dissolved in the reaction mixture, they become readily available targets for the fluoride, and are able to bond with the fluoride before the fluoride has a chance to bond with the silicon in the glass. *Id.*, ¶ 36. As a result of this chemical process, there is less fluoride seeking out the silicon and, therefore, the corrosion of the glass liner takes place at a much slower, and more manageable, rate. *Id.*, ¶¶ 37-38.

The specification identifies several specific examples of these trapping agents, “generally boric acid or an alkali metal borate such as sodium borate,” but further notes that “any hydrogen fluoride trapping agent” can be used, “such as silica (silicon dioxide), optionally in the form of silica oil.” ‘943 Patent, 4:63-67. The particular list of compounds identified in the specification as “corrosion inhibiting compounds” are all known hydrogen fluoride trapping agents, and each solves the corrosion problem in the same way: by chemically bonding with the fluoride in the reaction mixture to prevent the fluoride from bonding with the silicon in the glass. Lipton Dec., ¶ 39. Cheminova’s proposed construction, therefore, simply adopts the definition set forth in the specification, which states that the corrosion inhibiting compound is a hydrogen fluoride

trapping agent.⁵ See *Phillips*, at 1315 (the specification is the “single best guide to the meaning of a disputed term”) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

Furthermore, the specification supports only a hydrogen fluoride trapping agent as a corrosion inhibiting compound. The particular type of corrosion identified in the patent is caused by a specific chemical problem involving hydrogen fluoride and the silicon in the glass, and the manufacturing patents disclose a specific way to overcome this chemical problem: dissolving a hydrogen fluoride trapping agent into the reaction mixture. ‘943 Patent, 1:49-60; 4:63-67. The specific examples of corrosion inhibiting compounds provided in the specification are limited to hydrogen fluoride trapping agents; there is simply no support in the claims or the specification for using any other type of compound to address the specific corrosion problem at issue. Lipton Dec., ¶ 39; see also Ex. 8, BASF-C-7829 at 7833 (document produced by Plaintiffs that lists “corrosion inhibitors,” and lists only trapping agents).

Moreover, the claims state that the oxidation process takes place in the presence of the corrosion inhibiting compound, and preferably in specified amounts. ‘943 Patent, Claims 1 and 7. This language, as discussed *supra*, requires that the compound be capable of reacting with the particular chemical mixture during the oxidation reaction. Hydrogen fluoride trapping agents are the only compounds that comport with the language of the claims, the teachings of the specification, and the problem solved. Lipton Dec., ¶ 37.

Plaintiffs’ proposed construction, by contrast, is divorced from the particular corrosion problem identified and addressed by the Manufacturing Patents: the corrosion of glass by fluoride during the oxidation process. See *Netword, LLC v. Centraal Corp.*,

⁵ The parties agree that the term “corrosion inhibiting compound” includes another claim term: “compound.” Accordingly, any construction of “corrosion inhibiting compound” necessarily integrates the definition of compound.

242 F.3d 1347, 1352 (Fed. Cir. 2001) (claims “do not have meaning removed from the context from which they arose”). Further, their proposed construction attempts to broaden “corrosion inhibiting compound” to include any compound that “prevents, stops or decreases” *any* form of corrosion that results from -- *or might be expected to result from* -- the claimed oxidation process. The Manufacturing Patents do not, however, discuss multiple sources of corrosion, nor do they disclose multiple means of addressing that unknown corrosion. ‘943 Patent, 1:49-60, 4:63-67. Rather, the Manufacturing Patents identify a single corrosion problem caused by a particular byproduct of the oxidation process (corrosion of glass by hydrogen fluoride), and they disclose only one specific set of chemical compounds that address that particular corrosion problem. *Id.* Plaintiffs’ proposed construction of “corrosion inhibiting compound” is an improper attempt to broaden the scope of the claims to encompass concepts that was never discussed, let alone claimed, in the Manufacturing Patents. *See Inpro II Licensing v. T-Mobile USA, Inc.*, 450 F.3d 1350, 1355 (Fed. Cir. 2006) (claims cannot “enlarge what is patented beyond what the inventor has described as the invention”).

Furthermore, Plaintiffs’ construction should not be adopted because it expands the claims beyond their plain language by changing “inhibiting” to “prevents, stops or decreases” corrosion. This construction contradicts the specification, which explicitly states that the corrosion inhibiting compound “inhibits the corrosion process and reduces the speed of the corrosion” to a more manageable level, and therefore acknowledges that the corrosion process continues to occur even after the corrosion inhibiting compound is added to the reaction mixture. ‘943 Patent, 1:59-60. Plaintiffs’ proposed construction should be disregarded. *See Phillips*, 415 F.3d at 1322-23 (extrinsic evidence that conflicts with the intrinsic record should be disregarded.)

IV. THE APPLICATION PATENTS

A. “For the Protection of a [Future] Building Against Damage Caused By Insects” Requires Protection of the Entire Building

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
“Protection of the entire [future] building, not a portion thereof.”	“A treatment process for the protection of a building against damage to the building caused by insects, wherein the treatment does not block substantially all routes of potential termite entry.”

Beginning with the Abstract and repeated at least five times in the objects of the invention, the primary goal of the claimed application process is to protect a structure (or future structure). ‘743 Patent, Abstract, 1:8, 1:22, 1:26, 1:29-30, 1:52-53. The examples described in the patents, meanwhile, are presumably successful because, in both instances, “1 year after building the house, no attack of termite is observed.” *Id.*, 5:39-40. Cheminova’s construction merely seeks to confirm that the claimed process is intended to protect the entire structure, and not just isolated portions of it. Plaintiffs’ construction, on the other hand, inexplicably reads in numerous limitations without any basis. As such, its proposed construction is wholly inappropriate.

B. “No Quick Knock Down Effect” is an Indefinite Term

Each claim of the Application Patents recites “active ingredient” that “has no quick knockdown effect and a secondary killing action.” The parties dispute the proper construction of “active ingredient” and “no quick knockdown effect.”

1. “Active Ingredient” is Clearly Defined in the Claims

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
“A compound with the formula (I) as set forth in claim 1 of U.S. Patent No. 6,414,010 and claim 1 of U.S. Patent No. 6,835,743 and having no quick knock down effect and a secondary killing action”	Plain meaning or, alternatively, “insecticidally active chemical or substance as used in the claimed solution or suspension”

In construing “active ingredient,” the Court need look no further than the claims themselves, since they explicitly define the term. *See, e.g., Middleton, Inc. v. Minn. Mining & Mfg. Co.*, 311 F.3d 1384, 1387 (Fed. Cir. 2002) (the most important indicator

of the meaning of a claim term is its usage and context within the claim itself); ‘743 Patent, 5:59-61, 6:9-10. Claim 1 of the ‘743 Patent, by way of example, states that the active ingredient “*is* an insecticide of the formula (I),” and then proceeds to set forth the formula. *Id.*, 6:9-62 (emphasis added); *see Sinorgchem Co., Shandong v. International Trade Commission*, 511 F.3d 1132, 1136 (Fed. Cir. 2007) (word “is” signified that patentee was acting as lexicographer and must be bound by the express definition that follows). The claims further state, again unequivocally, that the active ingredient “has no quick knockdown effect and a secondary killing action.” ‘743 Patent, 5:59-61. As such, the claim language is dispositive.

Plaintiffs’ proposed construction, on the other hand, is not based on the intrinsic record at all, and seeks to improperly broaden the term by generalizing the class of insecticides beyond that expressly claimed. Moreover, Plaintiffs’ construction fails to clarify what an “active ingredient” is, both because it introduces the ambiguous requirement of a “substance,” and because it uses the term “active” to define “active ingredient.”

2. “No Quick Knock Down Effect” is Indefinite

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
Indefinite	Plain meaning or, alternatively “not killed quickly upon contact”

Patent claims must particularly point out and distinctly claim the patented invention. *See* 35 U.S.C. § 112 (¶ 2). If the claim language is “not sufficiently precise to permit a potential competitor to determine whether or not he is infringing,” the claim is invalid as being indefinite. *See Morton Int’l Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470 (Fed. Cir. 1993). “Whether a claim is invalid requires a determination whether those skilled in the art would understand what is claimed.” *Id.*, at 1470. The phrase “no quick knock down effect” fails to meet these requirements and is therefore indefinite.

As a starting point, neither the claims nor the specifications define or, indeed,

provide any guidance at all regarding this phrase. The claims merely include the phrase as a limitation. *See, e.g.*, ‘743 Patent, 5:60. Neither the specification nor the prosecution history provides any additional help. *Id.*, 1:62-67.

As such, one must look to extrinsic evidence to determine whether the phrase is known by one skilled in the art. Turning first to the inventor, Mr. Kimura insisted at his deposition that a definition existed, and that literature supported his position. Ex. 9, Deposition of Yasuo Kimura, 114:14-23. Mr. Kimura could not, however, articulate a definition himself. *Id.*

Cheminova then turned to Mr. Holmes, a former Research Scientist and the Global Product Development Manager at BASF responsible for fipronil, because Mr. Holmes declared to this Court under oath that an insect exposed to fipronil “behaves normally for a period of time, returns to its nest, and transfers the fipronil to other insects in the nest.” *See* Docket No. 10, Ex. A (Holmes Dec.), ¶8. Mr. Holmes, however, was able to observe only that insects would behave “normally,” whatever that may mean, for “at least hours.” Ex. 7, Holmes Depo., 217:2-9. Mr. Holmes could not say whether that meant two, twelve, twenty or two hundred hours, nor did he suggest that “knock down” means “killed,” as suggested in Plaintiffs’ construction. *Id.*, 217:10-11.

Finally, Cheminova turned to its expert, Dr. Brian Forschler,⁶ and his review of the relevant literature, to determine whether a definition would have been known to one skilled in the art. As explained in considerably more detail in Dr. Forschler’s declaration, the literature neither confirms the existence of the phrase “no quick knock down effect,” nor defines the phrase. Indeed, the literature not only fails to reveal any objective standard or definition for determining what “quick” means, it also fails to define what

⁶ As set forth more fully in his declaration, Dr. Forschler is a Professor of Entomology at the University of Georgia. He has spent 19 years as the Principal Investigator for the university’s Household and Structural Entomology Research Program, has served on numerous national and international committees and review boards directed to insect biology and management, and is extensively published and cited in entomology literature.

“knock down” means. Nothing in the literature or in Dr. Forschler’s considerable experience, for instance, helps one skilled in the art understand whether “knock down” means that an insect acts abnormally, is restricted in some way, is immobile or is killed (or any combination thereof). Even if that could be determined, nothing then explains how long “quick” is, i.e., is it seconds, minutes, hours or days? Declaration of Brian Forschler (“Forschler Dec.”), ¶¶ 12-31. As such, the phrase “no quick knockdown” is indefinite. *See Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005) (“Some objective standard must be provided in order to allow the public to determine the scope of the claimed invention.”).

C. Plaintiffs Seek to Re-Write the Application Patents By Changing “Around *or* Under” to “Around *and* Under”

Plaintiffs seek to rewrite the claims, asking the Court to interpret the patents to cover applications that are both “around *and* under” a building. Plaintiffs do so because Cheminova’s method practices the prior art by applying termiticide along 100% of the exterior of the building’s perimeter, thereby creating a complete chemical barrier and no “untreated locations,” or loopholes. To make this method somehow infringing, Plaintiffs argue that the patents require the application of the solution both around *and* under the building, thereby creating *two* perimeters (one interior and one exterior to the building) which, when combined together, constitute one total perimeter. In this way, Plaintiffs seek to add both Cheminova’s interior spot treatment (which is less than 100% of the interior of the building’s boundary) and its full exterior barrier treatment, and then assert that the combined treatments add up to less than 200% of the building’s boundary (thereby creating untreated zones). This construction is contrary to the intrinsic evidence.

1. **“Around or Under” Does Not Mean “Around and Under”**

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
Plain meaning of “or,” the disjunctive of around and under.	“The ‘treated locations’ are the locations along the perimeter (<i>both interior and exterior</i>) of the building where said solution or suspension has been applied”

In construing this term, the Court need look no further than the express and unambiguous language of the claims and the patentee’s use of conjunctions throughout the Application Patents. *See Interactive Gift Express, Inc. v. CompuServe Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“If the claim language is clear on its face, then [the court’s] consideration of the [specification and prosecution history] is restricted to determining if a deviation from the clear language of the claims is specified.”) The conjunction “or” is used over two hundred times in its ordinary disjunctive sense; the conjunction “and” is used over eighty times in its ordinary conjunctive sense; and the combined conjunction “and/or” is used four times. Thus, the Application Patents distinguish appropriately between these words, use each properly, and use each in their ordinary sense. There is simply no reason to deviate from the ordinary meaning of “or.”

2. **The Same Issues Arise With “Along the Perimeter of the Building” / “Along the Outline of the Future Building”**

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
“Along the interior or exterior of the boundary of the building, but not both.”	“Along the boundary (both interior and exterior) of the building.”
“Along the inside or the outside of the line marking the outer limits of the future building, but not both.”	“Along the future boundary (both interior and exterior) of the building.”

The only meaningful difference between the parties’ constructions is, again, that Plaintiffs seek to stretch the patents to cover an application along *both* the exterior *and* interior of the perimeter or outline.⁷ The patents do not support that construction. As

⁷ Both parties’ definitions use the terms “exterior” and “interior,” which at first may appear confusing. “Exterior” to the perimeter corresponds to an application made “around” the structure, i.e., outside the structure. “Interior”

noted above, step (b) of claim 1 requires that the application be made “around *or* under said building.” ‘743 Patent, Claim 1 (emphasis added). Once the choice of around *or* under is made, the application is made *once*, and that application is “along” the sole perimeter of the building. *Id.*, 5:65; 3:23-25. Further, the claims refer to “perimeter” using the definite article “the,” and recite “perimeter” in the singular. The claim language therefore recites only one perimeter and only one application.

The specification is similarly clear. In Example 1, the treated area is “5 m per 10 m of perimeter.” *Id.*, 5:38. Example 2 is the same, except that active ingredient is applied “inside *the perimeter* of the [future] house.” These examples describe a single “perimeter” and a single application. *Id.*, 5:49 (emphasis added).

Claim 3 in each of the Application Patents also provides insight. *See Phillips*, 415 F.3d at 1314 (claims can be valuable source of understanding). That claim recites killing termites in “a nest that is outside the perimeter of the building.” Again, the claim identifies a single “perimeter” and a single application. As such, the claims and specifications plainly support Cheminova’s common sense reading, and do not support Plaintiffs’ construction.

3. The Same Issues Arise Again With “Treated Locations” / “Untreated Locations”

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
Treated location: “Discrete locations where an effective amount of solution or suspension has been put”	“The ‘treated locations’ are the locations along the perimeter (both interior and exterior) of the building where said solution or suspension has been applied”
Untreated location: “Locations where the solution or suspension has not been put and through which insects may crawl and reach the building without being exposed to the solution or	“The ‘untreated locations’ are the locations along the perimeter (both interior and exterior) of the building where said solution or suspension was not applied”

corresponds to “under” because, for applications to soil “under” the structure, the application may be made through the basement floor inside the house.

suspension”	
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The claims require “*forming treated and untreated locations* ... by applying an effective amount of said solution or suspension to discrete locations *around or under said building*[.]” ‘743 Patent, 5:62-66 (emphasis added). Cheminova’s constructions flow directly from the claims. Plaintiffs’ constructions again seek to improperly broaden and rewrite express claim language, rewriting treatments “around *or* under” a building to cover “both interior *and* exterior” applications. There is simply no support for Plaintiffs’ litigation-induced construction.

4. “Discrete Locations” (around or under said [future] building)

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
“Non-continuous locations”	“Those treated locations along the perimeter (both interior and exterior) of the [future] building”

While “discrete locations” are treated, not all treated locations are “discrete,” as Plaintiffs’ construction requires. At issue is the common-sense meaning of “discrete,” which means “consisting of unconnected distinct parts.” Ex. 10 (American Heritage Dict.). The specification supports Cheminova’s position, where the discrete locations are shown as the distinct and non-continuous black boxes of Example 1, none of which touches one another. ‘743 Patent, 5:30-35.

Plaintiffs’ construction is also incorrect as it violates two fundamental principles of claim construction. First, it treats “discrete locations” and “treated locations” synonymously. As the patents use different terms, they must have different meanings. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004). Second, Plaintiffs attempts to read the word “discrete” out of the claims. Plaintiffs “need not have included this limitation in [their] claim. Having done so, [they] must live with the language [they] chose.” *Ethicon Endo -Surgery, Inc. v. United States Surgical Corp.*, 93 F.3d 1572, 1583 (Fed. Cir. 1996).

5. The “Total Perimeter Of The Building” is the Total Length of its Boundary

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
“The total length of the boundary of the building.”	“The combination of treated and untreated locations.”

Cheminova agrees with Plaintiffs’ construction to the extent it simply restates the claim language, but that construction fails to provide any insight into what the “total perimeter” is. Plaintiffs’ construction is part of its more global strategy to rewrite the claims to require treatment “around *and* under” a structure, so that its construction requires a “total perimeter” consisting of an exterior perimeter plus an interior perimeter. However, a building has only one perimeter, not two, and the patent calls for a single application either around or under the structure, not both.

D. “An Effective Amount of Said Solution or Suspension” Must Focus on the Goal of the Application, Not the Overall Claim

Cheminova’s Proposed Definition	Plaintiffs’ Proposed Definition
Plain meaning, alternatively “the amount of the solution or suspension needed to have its intended effects on the insects.”	“An amount of solution or suspension sufficient to protect a building against damage caused by insects”

The term “an effective amount of said solution or suspension” should be given its ordinary meaning. *Abbott Lab. v. Baxter Pharm. Prod., Inc.*, 334 F.3d 1274, 1277 (Fed. Cir. 2003) (“the term ‘effective amount’ has a customary usage.”) Claim 1 of the Application Patents shows that customary usage. Step (a) recites forming a solution of an insecticide, and step (b) recites “applying an effective amount of” the insecticide. There cannot be any serious debate that the intent of an insecticide is ultimately to kill insects, and that that goal necessarily requires an effective amount of insecticide.

Plaintiffs’ construction improperly focuses upon protecting the building. That may be the ultimate goal of the claimed process. It is not, however, the reason the solution is applied, which is to kill insects.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on the thirteenth day of December, 2010, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system which will send notification of such filing to:

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